So the motor is chosen to have efficient operation at the ideal compressor speed and to have an optimized power factor. On the input side of the variable speed drive, a near unity power factor reduces energy usage and the cost of the energy because of the reduced energy demand at, or approaching, unity power factor. This is because the power factor of the variable speed drive, not the power factor of the motor, is seen by the utility, since the variable speed drive isolates the motor from the utility.

IN THE CLAIMS

Add the following claims:

11. (New) The refrigeration system of claim 3 wherein said motor means has a power factor of at least 0.89 and said means for varying the speed of said motor means varies the frequency of electric power supplied to said motor means such that said means for varying the speed of said motor means operates at an input power factor of at least 0.99 when driving said motor means.

12. (New) The refrigeration system of claim 4 wherein said motor means has a power factor of at least 0.89 and said means for varying the speed of said motor means varies the frequency of electric power supplied to said motor means such that said means for varying the speed of said motor means operates at an input power factor of at least 0.99 when driving said motor means.

13. (New) The refrigeration system of claim 5 wherein said motor means has a power factor of at least 0.89 and said means for varying the speed of said motor means varies the frequency of electric power supplied to said motor means such that said means for varying the speed of said motor means operates at an input power factor of at least 0.99 when driving said motor means.

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